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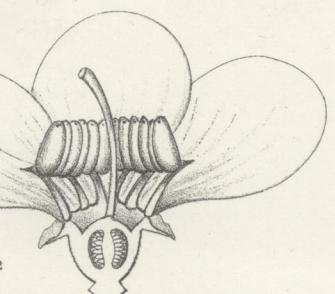
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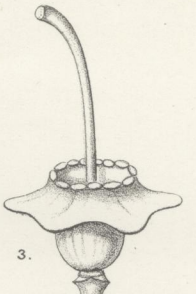
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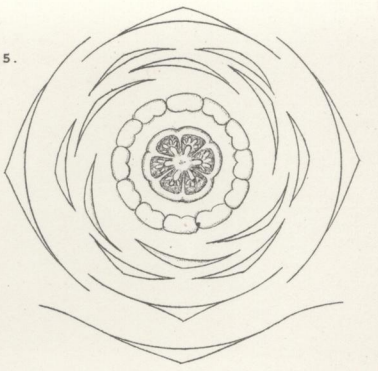

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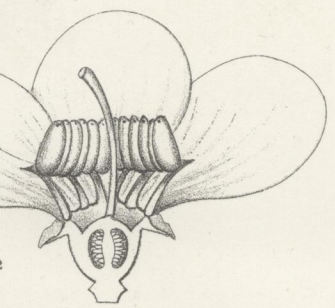

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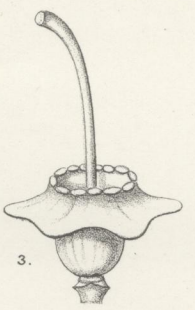


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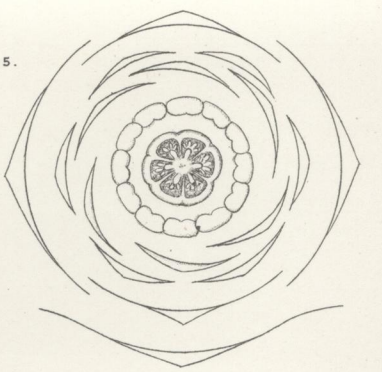
BLAKEA GUATEMALENSIS n.sp.











BLAKEA GUATEMALENSIS n.sp.

B. Meisel, Lith. Boston.


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C. E. Faxon, del.

LOUTERIDIUM DONNELL-SMITHII, Watson.



LOUTERIDIUM DONNELL-SMITHII, Watson.

B. Meisel, Lith. Boston.

VOL. XIV. NO. 2.—BOTANICAL GAZETTE.—FEB., 1889.

Undescribed plants from Guatemala. VI.

JOHN DONNELL SMITH.

(WITH PLATES VI and VII.)

GUATTERIA GRANDIFLORA.—Arboreous: leaves shortly petioled, coriaceous, glabrous except pilose midrib beneath, obovate-oblong (6–8 inches), a third as broad, cuspidate: peduncle terminal, 1½–2 inches long, articulated midway, lanceolate bract an inch long: petals thrice exceeding ovate sepals, oblong (14–16 lines), obtuse, nearly equal, fleshy, fuscous-velvety, the 3 interior glutinose-papillate toward base within: berries few (10–12), glabrous, ellipsoid, each end obtuse, 10 lines long, half as broad, 4-times exceeding incrassate stipe; seed corrugate.—Pansamalá forest, Depart. Alta Verapaz, alt. 3,800 feet, May, 1887 (Ex Pl. Guat. Tuerckh., qu. edid. J. D. S., 1,235).—The few other species with shortly stipitate carpels, of which *G. Quinduensis* Tr. et Planch., seems the most nearly related, differ respectively, as described, by axillary inflorescence, or smaller flowers, or less elongate fruit.

CLIDEMIA CYMIFERA (§ *Sagræa* Cogn.).—Branchlets, petioles, leaf-veins and calyxes stellate-furfuraceous, rubescent: leaves a little or twice exceeding petioles, ovate-acuminate, 3–5 inches long, somewhat unequal in the pairs, 5–7-nerved from cordate base, glabrate above, margins scabro-ciliate: cymes from axillary bracteolate nodes pseudo-fascicled, at length 1–3 and pedunculate, trichotomous, 1½–2 inches long; axes divaricate, filiform, exceeding flowers, glabrous, red: calyx urceolate, teeth shortly subulate-appendaged: petals obovate-oblong (4–5 lines), twice exceeding calyx, roseate: anthers incurved, shorter than filaments, inappendiculate connective not produced: ovary one-third free, conical apex glaucous: berry oval.—Rocks of a waterfall, Pansamalá, alt. 3,800 feet, June, 1885 (Ex Pl. cit. 709).

BLAKEA GUATEMALENSIS (§ *Eublakea* Triand).—Fur-

furaceous, anisophyllous: leaves glabrate, chartaceous, 5-nerved; the larger oval, caudate-acuminate, minutely cordate, 5 or 6 inches long, half as broad; the smaller ovate-lanceolate, 10–15 lines long: peduncles geminate or solitary, 1½–2 inches long, sub-equalling internodes: bracts 1-nerved; the exterior ovate-lanceolate, shorter than flowers, twice exceeding the obovate interior: calyx-limb narrow, sinuate: petals obovate-spatulate, nearly an inch long, roseate: anthers laterally connate, oblong, connective slender for the genus, its acutely conical spur a line long: style arcuate, elongate (8 lines), stigma capitellate: berry ribbed, 6-celled.—Pansamalá, alt. 3,800 feet, Sept., 1886 (Ex Pl. cit. 778).—*B. gracilis* Hemsl., with nearly similar involucre, flower and fruit, is isophyllous, leaves acute at base, solitary peduncles several times exceeding internodes, bracts 3-nerved, anthers free and inappendiculate.

Explanation of Plate VI; Fig. 1. Flowering branch, nat. size. Fig. 2. Vertical section of flower. Fig. 3. Flower deprived of petals and stamens, enlarged. Fig. 4. Stamen, enlarged. Fig. 5. Diagram of flower.

CLIBADIUM ARBOREUM. — Tomentose: leaves scabrid above, hairy beneath, triplinerved, appressed-serrulate, ovate-acuminate, 5–7 inches long, base narrowed to nearly half as long as petiole: corymb large, flat, dense: heads subsessile, bracts ovate-oblong: involucre 3 lines high; bracts 9–10, pubescent, ciliate, firm, strongly nerved, obtuse, disk epaleaceous: fertile flowers 5, uniseriate; achenia large (1½ lines long), thick, winged below apex, black, shining: sterile flowers 10–11; corolla exsert, 1½ lines long, lobes puberulous; abortive achenia equalling the perfect, like them naked except glandular-pubescent apex.—Pansamalá, alt. 3,800 feet, June, 1886 (Ex Pl. cit. 929).—Remarkable by arboreous habit, as stated by Mr. von Türckheim. Other Central-American species, all suffruticose, the first nearly allied, may be distinguished as follows:

C. Surinamense L., var. *asperum* Baker. Petioles short, leaves rounded at base: heads smaller; involucral bracts 6-8, acute; palets 2-3, linear: achenia small, short-obovate, dull-pale, upper half villose: corolla-lobes of sterile flowers conspicuously villose; abortive achenia hidden by shaggy hairs.

C. leiocarpum Steetz. Petioles very short, leaves narrowly ovate-lanceolate: heads small; involucral bracts glabrous, long-ciliate, bi-form, acutish: achenia broad, thick, black, apex naked and tuberculate.

C. acuminatum Benth. Petioles long: fertile flowers bi-seriate; sterile fewer (3-4), subsessile by short abortive achenia.

C. erosum DC. Petioles long, leaves unequally incised-serrate: heads distinctly pedicellate: fertile flowers bi-seriate, sterile 10–12.

NEUROLÆNA LOBATA R. Br., var. INDIVISA.—Glabrate: leaves membranaceous, scabrid above, broadly lanceolate, tapering finely to each end, lobeless: heads large.—Pansamalá forest, alt. 3,800 feet, April, 1887 (Ex Pl. cit. 1,223).—Approaching *N. macrocephala* Schz. Bip. in foliage and size of heads, but involucres remain distinct.

ARDISIA MICRANTHA.—Arboreous: leaves from short internodes, glabrate, coriaceous, obovate-elliptical, 4–6 inches long, acuminate, narrowed to short margined petiole: panicle terminal, subsessile, exceeded by leaf; branches complanate, margined, alternate, sub-simple, closely racemose-flowered toward apex; pedicels exceeding ovate alabastra, bractlets small: calyx-divisions ovate, ocellate, glandular ciliate: corolla twice longer (2½ lines), lepidote without and toward base within, sub-partite, segments oblong-ovate: stamens exceeding corolla, at length long-exsert, cordate anthers ¼ line long: style shorter than corolla, ovary rubro-punctate.—Coban, Depart. Alta Verapaz, alt. 4,600 feet, March, 1888 (Ex Pl. cit. 1,365).—*A. compressa* HBK., and *A. revoluta* HBK., with somewhat similar foliage and panicles, are distinct by anthers equaling or exceeding filaments; *A. bracteosa* A. DC., with nearly similar stamens, has sessile flowers exceeded by their bracts, tubular calyx and corolla acutely cleft.

TOURNEFORTIA BICOLOR Swz., var. CALYCOSA.—Calyx-segments glabrate, linear, two-thirds as long as corolla.—Pansamalá, alt. 3,800 feet, July, 1886 (Ex Pl. cit. 980).

IPOMŒA DISCOIDESPERMA (§ *Strophipomœa* Chois.)—Leaves twice exceeding petiole, entire, ovate, caudate-acuminate, base truncate, 3½–4½ inches long: peduncle exceeding petiole; pedicels 2–3, shorter than calyx, tetragonal-incrassate above, bracts minute: sepals elliptical, an inch long, smaller within: corolla yellow, infundibular, 2 inches long, tube short: stamens equal, one-fourth as long as corolla; filaments dilated at base, more than twice exceeding oblong anthers: style shorter, stigma 2-globose: disk large, pulvinate: ovary 2-locular, 4-ovulate, ovules arachnoid: capsule coriaceous, globose, over an inch in diameter, 1-locular,

4-valved: seed 1, oblate, an inch broad, half as high, black, velvety.—Pansamalá, alt. 3,800 feet, June, 1885 (Ex Pl. cit. 744). Collected also by Dr. Sereno Watson (412 Fl. Guatemala. Yzabal, Apr. 1885). The tardily dehiscing capsule exhibits scars of three obsolete ovules; vestiges of the dissepiment appear in the form of a narrow ring encircling the seed, free from both it and the septa, and attached only at the conspicuous hilum.

The eccentric seeds justify the conjecture that this is the plant known only by its capsules in Kew herb., which is referred to as follows by Seeman (Bot. Voy. Herald), and which has not been cited by later authors: "683. Ipomœa sp. Nomen vernacul. *Boton de terciopelo*. Veraguas. The capsule of this species is quite glabrous, but the seeds are densely covered with short, stiff, black hairs, giving them the appearance of black velvet buttons."

SOLANUM SIDEROXYLOIDES SCHLECHT., var. OCELLATUM.—Leaves elliptical, acuminate, base rounded, nearly smooth above, pubescent beneath, veins tomentose: calyx-teeth replaced by conspicuous black globose intramarginal glands.—Pansamalá, alt. 3,800 feet, May, 1887 (Ex. Pl. cit. 1,155). Schiede's original of Schlechtendal's description has been compared in the Berlin Herb. by Prof. Urban with the above, and fragments communicated by him. It differs only by more manifestly ovate and acuminate leaves floccose beneath, and minutely-toothed calyx. To the typical form seem referable 827 Botteri, 2,837 Bourgeau, 923 Türckheim; also the following unnamed specimens at Kew (not cited in *Biologia Centrali-Americana*), which have been compared by Dr. N. L. Britton: 1,157, 1,172 Galeotti; 233 Linden: 855, 856, 857, 897 Botteri.

SOLANUM OLIVÆFORME.—Herbaceous, glabrate, repent, 2–3 feet long: petioles margined, amplexicaul, 1–2 inches long; leaves minutely lepidote above, pale-glaucous beneath, trisect, cordate; leaflets obtuse at each end, contracted to margined petiolules; the terminal rhomboid 12–18 lines long; the lateral half as large, sub-opposite, oval, inæquilateral, base truncate on upper side and produced on lower: peduncles extra-axillary, sub-equalling petioles, exceeding 3–5-flowered scorpioid cyme: calyx-teeth triangular: corolla-segments linear-oblong (3 lines): anthers oblong, dehiscence longitudinal: berry ellipsoid, over an inch

long, nearly half as broad.—Mountain-precipice in Pansamalá, alt. 3,800 feet, May, 1887 (Ex. Pl. cit. 1,226).—The Bolivian *S. tripartitum* DC., which seems to be the most nearly related species, has, among other differences, pisiform fruit.

TETRANEMA EVOLUTA.—Leaves membranaceous, reticulate veins beneath and erose margins pubescent: peduncles ex-alate, shorter than leaves, sub-equalling paniculiform scorpioid cymes, elongate axes 2–4-nate: calyx-segments attenuate, 3–4 lines long: corolla nearly an inch long, white with purple spots: capsule ellipsoid.—On rocks, Pansamalá, alt. 3,800 feet, May, 1887 (Ex. Pl. cit., 1,218).—The generic character drawn strictly from the sub-capitate umbelliform inflorescence of the monotype, *T. Mexicana* Benth., needs enlargement to include this second species. The former differs also by glabrous fleshy crenulate leaves exceeded by margined peduncles, shorter calyx, smaller corolla, globose-ovoid capsule.

LOUTERIDIUM DONNELL-SMITHII, Watson, Proc. Am. Ac. xxiii, 284.—The author of this recent genus makes the following correction in one of its characters: "The upper sepals were described as distinct, and the three lower as united. The reverse is the fact. The third broad and apparently simple sepal is posterior, while the two lower, which remain distinct, are lateral, one upon each side of the sac of the corolla." In examining Dr. Watson's own undetermined collections in Guatemala this plant has been found to occur as "No. 292, Banks of Chocon river, Depart. Yzabal, March 1885."

Explanation of Plate VII: Fig. 1. Cyme and leaf. Fig. 2. Flower with calyx removed and corolla laid open. Fig. 3. Vertical section of ovary. Fig. 4. Ovule. Fig. 5. Capsule divided transversely. Fig. 6. Dehiscent capsule. Fig. 7. One valve showing placenta and retinacula. Fig. 8. Seed divided transversely. Fig. 9. Embryo. Fig. 10. Diagram of flower. (Figs. 1, 2, 5, 6 and 7 are natural size; the others are variously magnified.)

SCUTELLARIA ORICHALCEA.—Suffruticose, a foot high, pubescent: leaves minutely scabrid above, pulveraceous beneath, oblong-lanceolate, obtuse, coarsely toothed, 16–21 lines long, 2–3 times exceeding petiole: raceme terminal,

secund, equalling leaves; flowers 12–15, pubescent, alternate and opposite, twice exceeding foliaceous bracts: calyx 2 lines long, equalling pedicel: corolla yellow, 10 lines long, tubular nearly to lips and half a line wide; posterior lip 1 line long, united with equal lateral lobes, nearly twice exceeding patent anterior lip: filaments scarcely margined; anthers ciliate.—Rock-crevices, Chajrax, Depart. Alta Verapaz, alt. 2,000 feet, Dec., 1887 (Ex Pl. cit. 406).—Affinity is with the recently described *S. lutea*, Botan. Gaz. xiii. 76; but conspicuously different by filiform corolla.

DAPHNOPSIS RADIATA (§ *Nordmannia* Benth. et Hook.).—Fruticose, younger parts and inflorescence sericeous-pubescent: leaves coriaceous, smooth and shining above, paler and veiny beneath, oblanceolate, 8 or 9 inches long, 2 inches broad, each end acutely attenuate, sessile: peduncles extra-axillary, 1½–2 inches long, terminated by a globose 35–38-flowered umbel 16 lines in diameter; pedicels filiform, twice exceeding flowers: pistillate perianth urceolate-fusiform, roundish unequal lobes ½ line long: staminodes most minute: style equalling sub-stipitate ovary, large globose stigma included by connivent perianth-lobes: staminate flowers not seen.—Mountain-forest, Coban, alt. 4,600 feet, Feb., 1888 (Ex Pl. cit. 1,163).—Well marked by large leaves, numerous elongated pedicels, small perianth-lobes, long style.

HYPOXIS RACEMOSA (§ *Euhypoxis* Baker).—Tuber oblong, ¾ inch thick, neck elongate: leaves plicate, carinate, 7–9-veined, a foot or more long, 6 lines broad: scapes 5–6, suberect, a third shorter than leaves: racemes densely villose, 2–3 inches long, 7–8-flowered; pedicels equalling bracts and internodes, alternate above: exterior perianth-segments green on face with colored margin, linear-lanceolate, 5 lines long, 1 line broad; the interior a little smaller, more than twice exceeding stamens: style with stigma equalling filament: ovary trigonal, equalling limb.—Coban, alt. 4,300 feet, May, 1886 (Ex Pl. cit. 33).—A more robust plant than any forms of *H. decumbens* L., and distinct from the var. *major* Seub., by rhizome, distinctly racemose inflorescence, long-pedicellate flowers, elongate perianth. Collected also in Mexico by Botteri (80, 455, 463).

Baltimore, Md.